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CLIFFORD CHANCE US LLP			SUBRAMANIAN, NARAYANSWAMY	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

09/870,325

Applicant(s)

CLEARY NEUBERT ET AL.

Examiner

Narayanswamy Subramanian

Art Unit

3691

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 21-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20, 37 and 38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This office action is in response to applicants' communication filed on October 15, 2007. Addition of new claims 37-38 have been entered. Examiner acknowledges the applicant's election of claims 1-20 without traverse in response to restriction/election requirement. Claims 1-38 are currently pending of which claims 21-36 are withdrawn from consideration as being drawn to a non-elected invention. Applicants are respectfully advised to cancel the withdrawn claims in reply to this office action. Claims 1-20 and 37-38 have been examined. The rejections, objections and response to arguments are stated below.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1-20 and 37-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 1 and 37-38 recite the limitation "NBBO price range". It is not clear what the applicants mean by the term "NBBO price range". It is also not clear if "NBBO price range" is the same as "NBBO range". Appropriate clarification/correction is required.

Claims 1-20 and 37-38 are also rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the source of a buy order, sell order and NBBO price range. Independent claims 1 and 37-38 recite in the preamble "a buy order

having a buy order price and a sell order having a sell order price". It is not clear where these prices are coming from. Are these prices stored in a memory from which they are retrieved or are they received online or from some other source? Without this critical step the scope of the claims remains unclear. Also it is also not clear how the NBBO price range is identified. Appropriate clarification/correction is required. The dependent claims are rejected by way of dependency on a rejected independent claim. In the system claim, the relationship between the source of the missing elements and the processor needs to be identified.

Claims 12-19 are not sufficiently precise due to the combining of two different statutory classes of invention in a single claim. Claim 12 is dependent on a method , but the body of the claim discusses the specifics of a system (a crossing network for matching said buy order and said sell order). A claim is considered indefinite if it does not apprise those skilled in the art of its scope. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F. 2d 1200, 1217 (Fed. Cir. 1991).

#### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-20 and 37-38 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory Subject matter.

35 USC 101 requires that in order to be patentable the invention must be a "new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof".

Claims 1-20 and 37-38 are drawn to “a method, a system and a computer readable storage medium storing instructions for matching a buy order having a buy order price and a sell order having a sell order price, the method including the steps of “identifying an NBBO price range; determining if said buy order price and said sell order price are within said NBBO range; determining if said buy order price is not less than said sell order price; calculating a midpoint between said buy order price and said sell order price; and only matching said buy order and said sell order at said midpoint if said buy order price is not less than said sell order price and said buy order price and said sell order price are within said NBBO range”. As such the claimed invention is directed to a judicial exception to 35 U.S.C. 101 (i.e., an abstract idea, natural phenomenon, or law of nature) and is not directed to a practical application of such judicial exception because the claims do not require any physical transformation and the invention as claimed does not produce a useful, concrete, and tangible result.

The Court of Appeals for the Federal Circuit issued opinions in *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F. 3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998) and *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999). These decisions explained that, to be eligible for patent protection, the claimed invention as a whole must accomplish a practical application. That is, it must produce a “useful, concrete and tangible result.” *State Street*, 149 F.3d at 1373-74, 47 USPQ2d at 1601 02. To satisfy section 101 requirements, the claim must be for a practical application of the § 101 judicial exception, which can be identified in various ways: (a) The claimed invention “transforms” an article or physical object to a different state or thing. (b) The claimed invention otherwise produces a useful, concrete and tangible result, based on the factors discussed below.

The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. See MPEP § 2107. It is not clear as to what is the specific, substantial and credible utility of the claimed invention.

The tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application"). It is not clear as to what is the tangible result of the claimed invention.

For an invention to produce a "concrete" result, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again. In re Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000) (where asserted result produced by the claimed invention is "irreproducible" claim should be rejected under section 101). The opposite of "concrete" is unrepeatable or unpredictable. The steps of the claimed invention are not clear and specific enough to guarantee that the same results will be produced for a given set of inputs. It is not clear as to what is the concrete result of the claimed invention. In view of the ambiguities identified in the 35 USC 112, second paragraph rejections above it is not clear if the results of the claimed invention are repeatable or predictable.

There is no useful, concrete and tangible result produced from implementing the steps of the claimed invention. The dependent claims are rejected for the same reason and by way of dependency on a rejected independent claim.

Applicant's claims 12-19 are intended to embrace or overlap two different statutory classes of invention as set forth in 35 § U.S.C. §101. Claim 12 depends on claim 1 which is a

method claim. However claim sets out by claiming a system element namely a crossing network for matching said buy order and said sell order. (See rejection of claims under 35 U.S.C. §112, second paragraph, for specific details regarding this issue). “A claim of this type is precluded by express language of 35 U.S.C. §101 which is drafted so as to set forth statutory the statutory classes of invention in the alternative only”, *Ex parte Lyell* (17USPQ2d 1548).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 5-11 and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magill et al. (US Pub. No.2004/0143542) in view of Gianakouros et al. (US Patent 7,035,819 B1).

Claims 1 and 37-38, Magill discloses a method, a system and computer readable storage medium storing instructions for matching a buy order having a buy order price and a sell order having a sell order price comprising the steps of: identifying an NBBO price range (See Magill paragraph 85; nationally disseminated best bid/ask); calculating a midpoint between said buy order price and said sell order price (See Magill paragraph 85).

Magill does not explicitly disclose determining if said buy order price and said sell order price are within said NBBO range; determining if said buy order price is not less than said sell order price; and matching said buy order and said sell order at said midpoint if said buy order is

not less than said sell order price and said buy order price and said sell order price are within said NBBO range.

Gianakouros discloses the steps wherein a determination is made as to whether the buy order price and sell order price are within an NBBO range (Column 1 lines 53-56 and Column 33 line 64 - Column 4 line 5, "Retail Marketable Orders.").

It would have been obvious to one of ordinary skill in the art to modify Magill in view of Gianakouros so that the participants in the system receive a higher degree, on average, of price improvement. In requiring that orders are within the NBBO range, the system decreases the odds of outlier bids being place and increases the overall liquidity of the system. A motivation to combine is that the overall liquidity of the method is enhanced which in turn increases the speed of execution.

Both the references do not explicitly disclose determining if said buy order price is not less than said sell order price.

Official Notice is taken that this step is well known to price improvement systems. It therefore would have been obvious to one of ordinary skill in the art to modify Magill to include this step, so that both parties to the transaction receive equitable treatment.

Claim 5, Magill discloses the step wherein said buy order is for a first share amount and said sell order is for a second share amount and wherein the step of matching said buy order and said sell order includes the steps of: matching said buy order and said sell order up to said first share amount if said first share amount is less than said second share amount; and only matching said buy order and said sell order up to said second share amount if said second share amount is less than said first share amount (See Magill paragraph 69; partial "fills").



Claim 6, Magill in view of Gianakouros discloses the claimed method 1 supra and while Magill does not explicitly further disclose the step comprising a second buy order having a second buy order price above said midpoint and less than said buy order price, wherein the step of matching said buy order and said sell order includes the steps of: calculating a cross point equal to said second buy order price plus an increment and matching said buy order and said sell order at said cross point, this step would have been obvious to anyone skilled in the ordinary art at the time of invention. Magill explicitly discloses that one of the objectives of the invention is to provide a securities trading system which includes an Interactive Open Order Book capable of allowing subscribers via the Internet to aggregate, manipulate, display and interact with the buy and sell order data (See Magill paragraph 7). This broad objective is meant to achieve the goal of providing both the seller and buyer of a security with optimum price discovery that would be beneficial to both sides. Magill also discloses that the price discovery of buy and sell orders is dynamic, relative to the bids and offers of the subscribers (See Magill paragraph 62). With these two things in mind, it would have been an objective of Magill to account for all possible scenarios where both parties could potentially benefit by using the system. A subscriber would therefore be motivated to use the method of Magill to seek a better deal on the transaction.

Claim 7, is similar in scope to claim 6 regarding the prior art and particularly the rationale and would therefore be rejected along the same lines with the same motivation.

Claim 8, Magill in view of Gianakouros discloses the claimed method supra and further discloses the step wherein said buy order is selected from a plurality of buy orders each having a buy order price and wherein said buy order price of said selected buy order is greater than said buy order price of any other of said plurality of buy orders. Magill discloses that the "preferred

embodiment employs an order matching algorithm designed to seek the best mutual matching price (See Magill paragraph 85)." Seeking the highest buy order price from a list of buy orders would be the best price for the seller and would therefore fulfill the objective of the invention.

Claim 9, Magill in view of Gianakouros discloses the claimed method supra and while not explicitly disclosing the step of selecting said buy order ahead of a second buy order having a second buy order price equal to said buy order price of said buy order wherein said second buy order is a proprietary order, this step would have been obvious to someone skilled in the ordinary art at the time of invention. As admitted by the applicant in page 3 of the disclosure, a financial institution is obligated to seek the best execution for a particular customer order. If the customer's orders are sacrificed for the proprietary orders, the institution will not be seeking the best execution for the customer but rather for itself and would therefore be in violation of this business principle and would risk losing future business from customers.

Claim 10, Magill in view of Gianakouros discloses the claimed method supra and Magill further discloses the step wherein said buy order is an agency order having an order time and further comprising the step of; selecting said buy order ahead of a second buy order having a second buy order price equal to said buy order price of said buy order, wherein said second buy order is an agency order having a second order time and wherein said order time is prior to said second order time (See Magill paragraph 31).

Claim 11, Magill in view of Gianakouros discloses the claimed method supra and Magill further discloses the step wherein said buy order is a proprietary order having an order time and further comprising the step of selecting said buy order ahead of a second buy order price equal to said buy order price of said buy order, wherein said second buy order is a proprietary order

having a second order time and wherein said order time is prior to said second order time (See Magill paragraph 31).

8. Claims 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magill et al. (US Pub. No.2004/0143542) in view of Gianakouros et al. (US Patent 7,035,819 B1) and further in view of Lupien et al. (US Patent 5,689,652).

Claim 12, Magill in view of Gianakouros discloses the claimed method 1 as discussed above, but does not explicitly disclose a crossing network for matching said buy order and said sell order, said crossing network receiving a plurality of pass-through orders and a plurality of passive orders.

Lupien discloses a crossing network that matches buy and sell orders based upon a satisfaction and quality profile (See Lupien abstract). Lupien further discloses that typically the matching process is anonymous (passive), however the buy and sell orders are not required to be confidential (pass through).

It would have been obvious to one of ordinary skill in the ordinary art at the time of invention to include the teachings of Lupien to the disclosure of Magill, so that there is an efficient system in place to both record buy and sell orders in a database, compare said buy and sell orders and match orders appropriately.

Claim 13, Magill in view of Gianakouros in view of Lupien discloses the method of claim 12 and Lupien further discloses the step wherein said buy order and said sell order are included in said plurality of pass-through orders (See Lupien abstract). Lupien states that typically the orders are anonymous, which leaves open the possibility for pass through orders.

Claim 14, Magill in view of Gianakouros in view of Lupien discloses the method of claim 12 and Lupien further discloses the step wherein said buy order and said sell order are included in said plurality of passive orders (See Lupien abstract). Lupien states that typically the orders are anonymous (passive).

Claim 15, Magill in view of Gianakouros in view of Lupien discloses the method of claim 12 and Lupien further discloses the step wherein one of said buy order and said sell order is included in said pass-through orders and one of said buy order and said sell order is included in said passive orders (See Lupien abstract). Lupien states that typically the orders are anonymous, which implies that they while the majority may be passive orders, the possibility for pass-through orders remains.

Claim 16, Magill in view of Gianakouros in view of Lupien discloses the method of claim 12 and Lupien further discloses the step wherein said passive orders are blind orders (See Lupien abstract). Lupien states that typically the orders are anonymous with regards to the matching system. For the orders to be truly anonymous, then no one should be allowed to view the orders submitted by the anonymous parties (blind order as defined by applicant).

Claim 17, Magill in view of Gianakouros in view of Lupien discloses the method of claim 12, Magill further discloses an order router in communication with an external destination (See Magill paragraph 7; exchange). Magill does not explicitly disclose wherein said order router is in communication with said crossing network and said order router receives at least a portion of said pass-through orders from said crossing network and forwards said at least a portion of said pass through orders to said at least one external order destination. However, it has been established in the rejection of claim 12 that one would be motivated to use a crossing network as

taught by Lupien in connection with the system of Magill in view of Gianakouros in order to more fully and efficiently process buy and sell orders. The system of Magill in view of Gianakouros has the ability to communicate and route orders with external exchanges so it would thus also be obvious, along those same lines that the crossing network would be in communication with the order router to the external exchanges. In this way, if a buy or sell order cannot be matched, via the crossing network, with others from the order book, said orders can be forwarded to external exchanges to complete the transactions. One would again be motivated to do this to add further liquidity to the system and allow for orders to be processed even if an initial match does not occur. It would also follow then that at least some of the pass-through orders and some of the passive orders not processed by the crossing network would be forwarded to the router to be sent to the external exchanges.

Claim 18, Magill in view of Gianakouros in view of Lupien discloses the method of claim 17 and while the references do not explicitly disclose the step wherein said at least a portion of said pass through orders that have not been matched by said crossing network, this would be obvious because the first priority of both the Magill and the Lupien systems is to match the orders with other orders entered into the system. Communication with external exchanges would only occur if the order could not be matched on the crossing network. An order that could be matched on the crossing network would not be forwarded to another destination because the crossing network can provide the best value for the participant via price discovery with other participants of the crossing network.

Claim 19, Magill in view of Gianakouros in view of Lupien discloses the method of claim 18 and while the references do not explicitly disclose the step wherein a portion of said

pass-through orders are forwarded to at least one external destination after a time delay, this would have been obvious to someone skilled in the ordinary art at the time of invention because the first priority of both the Magill and Lupien systems is to match the orders with other orders entered in the system. Communication with external exchanges would only occur if the order could not be matched on the crossing network. An order that could be matched on the crossing network would not be forwarded to another destination because the crossing network can provide the best value for the participant via price discovery with other participants of the crossing network. A time delay would be necessary to give the crossing network an opportunity to match the order, as well as wait for potential counter offers to be sent to the network.

Claim 20, Magill in view of Gianakouros in view of Lupien discloses the method of claim 1 and Magill further discloses wherein the step of identifying an NBBO range includes the step of receiving an updated NBBO (See Magill paragraph 62). Magill notes that the midpoint number changes in direct relationship to changes in the NBBO, which implies that changes in the NBBO are received on a continuous basis.

### ***Claim Objections***

9. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

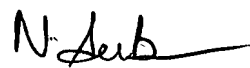
10. Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection. In terms motivation to combine the references, the motivation to combine as discussed in the rejection would have been obvious to one of ordinary

skill in the art. Also the examiner would like to point out that KSR (*KSR International Co. v Teleflex Inc.*, 550 U.S. 82 USPQ2d 1385 (2007)) forecloses the argument that a specific teaching, suggestion or motivation is required to support a finding of obviousness.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Narayanswamy Subramanian whose telephone number is (571) 272-6751. The examiner can normally be reached Monday-Thursday from 8:30 AM to 7:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Kalinowski can be reached at (571) 272-6771. The fax number for Formal or Official faxes and Draft to the Patent Office is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PMR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Dr. N. Subramanian  
Primary Examiner  
Art Unit 3691

January 6, 2008